

## **REMARKS**

The last Office Action of February 3, 2009 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1, 2, 5-7, 9, 10, 16-18 are pending in the application. Claims 11-15 have been withdrawn from further consideration due to an earlier election requirement. Claim 1 has been amended. Claim 19 has been added. No claim has been canceled. No amendment to the specification has been made. No fee is due.

### **CLAIM REJECTIONS - 35 U.S.C. §103(a)**

Claims 1, 2, 5-7, 17. stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 1,373,002 to Hellmund in view of U.S. Pat. No. 5,331,238 to Johnsen.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hellmund in view of Johnsen and further in view of U.S. Pat. No. 3,604,013 to Akers et al.

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hellmund in view of Johnsen and further in view of U.S. Pat. No. 5,406,152 to Fechner et al.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hellmund in view of Johnsen and further in view of U.S. Pat. No. 6,191,511 to Zysset.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hellmund in view of Johnsen and further in view of U.S. Pat. No. 6,891,290 to Nagayama et al.

The rejection under 35 U.S.C. 103(a) is respectfully traversed in view of the amendments to independent claim 1 and the following remarks.

Applicant has amended claim 1 by setting forth the configuration of the ring-shaped coolant channel and the axial channels (circumferential channels 11, cf. Fig. 1) to ensure that incoming coolant is first dispersed in circumferential direction before

entering the axial channels and distributed essentially uniformly about the circumference of the cylindrical magnet arrangement. In other words, the axial channels are configured to impede a flow of coolant to a greater degree than the ring-shaped coolant channel so that the incoming coolant is first introduced into the coolant channel. Claim 19 has been added to set forth the size relationship between the ring-shaped coolant channel and the axial channels to effect the different degree of flow resistance. Support for the amendments to claim 1 and the subject matter of claim 19 can be found in paragraph [0024], last five lines of the instant specification, which is duplicated hereinafter for the benefit of the Examiner:

*It should be stated, in this regard, that the coolant, where it enters the coolant channel 7, is first distributed in the circumferential direction, since the coolant channel 7 possesses a larger cross section and therefore a lower flow resistance than the axial channels 11. (Emphasis added)*

As a result, coolant is brought into contact across the entire circumference of the magnet arrangement, respectively, in a substantially uniform manner (cf. paragraph [0006] of the instant specification) before flowing through the interior of the magnet arrangement.

Applicant respectfully submits that the combination of Hellmund and Johnsen, as suggested by the Examiner fails to raise a *prima facie* case of obviousness.

Hellmund describes an electric machine having an inlet port for entry of a coolant by means of fans into a chamber (26) and through the core member (4). Page 1, left column, line 101 to page 2, left column, line 3 is illustrative and duplicated here for the benefit of the Examiner:

*When the fans 30 are operated, air is forced into the chamber 26 and a portion thereof passes through the longitudinal passages 7 and 8 of the core member 4. The remainder of the air is delivered to the passages 19 [] through the longitudinal passages 15.*

In Hellmund, cooling air is thus divided into substreams, with one substream immediately entering the axial passageways and another substream flowing downwards to the lower axial passageways. In other words, Hellmund fails to describe the initial distribution of coolant about the circumference. As a result, in Hellmund

cooling becomes more effective in the upper portions of the electric machine compared to cooling in the lower portions of the electric machine because the substream flowing downwards is not only heated during its course but is also resisted by the shaft and winding heads disposed there. In other words, the electric machine cannot be not evenly cooled.

Johnsen describes a cylindrical magnet arrangement having a circumference with a cascade-like cooling channels.

It is respectfully submitted that a combination of Hellmund and Johnsen does not produce the invention set forth in claim 1 but would merely result in replacement of Hellmund's core member with Johnsen's core member. Neither Hellmund nor Johnsen suggests a ring-shaped coolant channel extending about the magnet arrangement, and neither Hellmund nor Johnsen suggests a coolant flow that flows first in the ring-shaped coolant channel in circumferential direction before entering the axial channels and flowing essentially uniformly about the circumference of the magnet arrangement. It was only the inventor of the present invention who realized the benefits of this configuration, namely to effect an even cooling of the electric machine. (cf. paragraph [0006] of the instant specification).

For the reasons set forth above, it is applicant's contention that neither Hellmund nor Johnsen, nor a combination thereof teaches or suggests the features of the present invention, as recited in claim 1.

Claims 2, 5-7, 9-10, 16-19 which depend from claim 1 and therefore contain all the limitations thereof, patentably distinguish over the applied prior art in the same manner as claim 1.

Withdrawal of the rejection under 35 U.S.C. §103(a) is thus respectfully requested.

## **CITED REFERENCES**

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the claims on file. It is thus felt that no specific discussion thereof is necessary.

## CONCLUSION

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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